



Systems Engineering and Integration

At TriVector, our SE&I experts are recognized for their depth of *experience* in developing and implementing streamlined, technically-robust life cycle SE&I programs...for their superior *performance* in executing SE&I technical functions...and for providing exceptional *value* to our customers.

- ▶ *Model Based Systems Engineering*
- ▶ *Integrated Lifecycle SE&I Planning and Execution*
- ▶ *Concept of Operations Definition*
- ▶ *Interface Requirements and Design Definition*
- ▶ *Risk Management*
- ▶ *Configuration and Data Management*
- ▶ *Verification & Validation Planning and Execution*

Our People

- ▶ *99% Employee Satisfaction*
- ▶ *95% Employee Retention*
- ▶ *32% Subject Matter Expert*
- ▶ *51% Advanced Degrees*

Our Current Customers

- ▶ *U.S. Army*
- ▶ *MDA*
- ▶ *NASA*
- ▶ *NOAA*

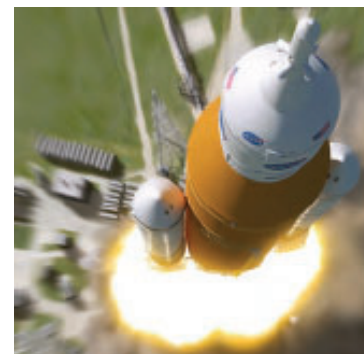
Experience ▶ Performance ▶ Value


TriVector
SERVICES INC.

Solving Critical Customer Challenges...Delivering Superior Technical Solutions.

NASA Space Launch System (SLS) Core Stage (CS) CM

With 90+ years combined experience, the TriVector CM Team managed the SLS CS CM baseline, interfaces, and associated CM processes. We developed and maintained the CM Plan and developed the SLS Element Interface Control Plan that defines the change management process for SLS element-to-element Interface Control Documents (ICDs). We provided system-level Control Board administration for four Element Control Boards. Our Team developed a CS-specific Configuration Status Accounting database to enhance change processing, status updating, and reporting. We support SLS CM task teams to include the SLS Functional Configuration Audit Plan for the conduct of the Program FCA and subordinate element requirements. Our TriVector NASA CM Team received the Marshall Integrated Program Support Services (MIPSS) Subcontractor Award of Excellence.



Missile Defense Agency (MDA) - Ground-Based Midcourse Defense (MDA)

Our team is currently supporting MDA's transition to a Digital Engineering environment that fully realizes MBSE and uses the architecture model as the driving force for the development of emerging capabilities. Our team has developed MBSE based processes for Increment Next/Next Generation Interceptor (NGI) requirements development and the transition to model-based milestone reviews. We have also introduced the use of MBSE for Requirements Analysis and Assessment efforts with the creation of Requirements Views and Requirements Based Sequence Diagrams that provide context and improved understanding over traditional methods, fostering a culture shift towards the use of the architecture diagrams for facilitating discussions and resolving issues.

NASA MSFC Streamlined Systems Engineering (SE) Process

TriVector streamlined the NASA Marshall Space Flight Center (MSFC) SE Policy MPR 7123 and related processes to ensure an efficient, cost effective, technically rigorous SE program. Our Tiger Team evaluated MSFC's 17 core SE processes identifying current state, risks, gaps, and lower level "How To" content, processes, and products. Through Tabletop Assessments, we defined optimized processes while improving technical rigor and validating SE requirements. We assembled 60+ SE SMEs to gain input and concurrence on revisions, and benchmarked NASA, DoD, and International Standards for Best Practices. We developed the modified SE policy and definitive NASA SE Handbook; gained senior management approval; and trained SE personnel. We achieved all customer requirements – reducing "shall" statements by 84%; thereby streamlining SE execution – all within budget and schedule.



Human Landing System (HLS)

TriVector is leading the development and management of HLS Requirements and Verification (R&V) products with emphasis on; HLS Interface Requirements Documents (IRDs) and associated interface verification definitions, as well as Interface Control Documents (ICDs) development, the HLS Program System Requirements Document (PrSRD) and Partner SRD (PaSRD), and the HLS Verification & Validation (V&V) Plan. These documents are a critical part of the HLS acquisition process and served as the contractual baseline for development, delivery, verification and operation the HLS. TriVector also supports the formulation of the HLS Design Reference Missions (DRMs), requiring our team to extract a concise and complete set of functions, consult with discipline engineers to derive reasonable performance expectations, and from that, develop a baseline set of functional and performance requirements that describe the expected capabilities of the system. The result of this work has been a comprehensive, set of requirements that bounded the HLS without prescribing system design or architecture